

We claim:

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A17

1. A computer-implemented method comprising:
  - processing a document of at least text as a plurality of segments;
- 5     determining a plurality of page breaks within a predetermined segment;
  - rendering a predetermined page within the predetermined segment; and,
  - displaying the predetermined page.
2. The method of claim 1, wherein processing a document of at least text as a plurality of segments comprises assembling the document into the plurality of segments.
- 10    3. The method of claim 1, wherein processing a document of at least text as a plurality of segments comprises dividing the document into the plurality of segments.
4. The method of claim 1, wherein determining a plurality of page breaks within a predetermined segment comprises:
  - pouring text of the predetermined segment into a series of predetermined slots of a
  - 15    first page organized into at least one column of the first page, until the slots of the first page have been processed;
  - denoting a page break; and,
  - repeating pouring the text into successive pages and denoting a page break until the text is depleted.
- 20    5. The method of claim 4, wherein pouring the text into a series of predetermined slots comprises:

from a current position in the text, determining a maximum number of words that fit into a current slot;

advancing the current position in the text to a next word after the maximum number of words that fit into the current slot; and,

5 advancing the current slot to a next slot and repeating until the slots of the page have been processed.

6. A computer-implemented method for dynamically paginating a document having a plurality segments comprising:

10 entering a predetermined segment of the document into memory;

determining each of a plurality of page breaks within the predetermined segment of the document; and,

storing the plurality of page breaks within the predetermined segment of the document in the memory.

15 7. The method of claim 6, wherein determining each of a plurality of page breaks within the predetermined segment of the document comprises:

pouring text of the predetermined segment into a series of predetermined slots of a page organized into at least one column of the page, until the slots of the page have been processed;

20 denoting a page break; and,

repeating pouring the text into a next page until finished.

8. The method of claim 7, wherein pouring the text into a series of predetermined slots comprises:

from a current position in the text, determining a maximum number of words that fit into a current slot;

5       advancing the current position in the text to a next word after the maximum number of words that fit into the current slot; and,

advancing the current slot to a next slot and repeating until the slots of the page have been processed.

9. The method of claim 6, further comprising displaying a desired page.

10    10. The method of claim 9, wherein displaying a desired page comprises:

determining a page break corresponding to the desired page; and,

laying out the page, including determining how text is to be displayed in each slot of the page.

11. The method of claim 9, wherein displaying a desired page comprises rendering the  
15   desired page for display on a display device.

12. A computer-implemented method for dynamically paginating a segment of a document of at least text comprising, for each of at least one page of the segment:

pouring text of the segment into a series of predetermined slots of a page organized into at least one column of the page, until the slots of the page have been processed; and,

20       denoting a page break.

13. The method of claim 12, wherein pouring the text into a series of predetermined slots comprises:

from a current position in the text, determining a maximum number of words that fit into a current slot;

5     advancing the current position in the text to a next word after the maximum number of words that fit into the current slot; and,

advancing the current slot to a next slot and repeating until the slots of the page have been processed.

10    14. The method of claim 12, wherein the series of predetermined slots of the page each has a predefined height and a predefined width.

15. The method of claim 12, wherein the text is defined as a series of lines and wherein pouring the text comprises:

determining whether a current line refers to an image;

15     upon determining that the current line refers to an image, determining whether the image has sufficient room on the page to fit, given already filled slots on the page and resizing scale of the image as necessary; and,

upon determining that the image has sufficient room on the page to fit, accommodating the image on the page, decreasing in size subsequent slots on the page as necessary.

20    16. The method of claim 15, wherein upon determining that the image has insufficient room on the page to fit, postponing accommodation of the image to a next page.

17. The method of claim 15, wherein the image has a predetermined position of at least one of: in-line, left justified in current column, right justified in current column, center justified in current column, top of page, vertically center of page, bottom of page, left justified in page, right justified in page, horizontally center of page.

5 18. The method of claim 12, wherein the text is defined as a series of lines and wherein pouring the text comprises:

determining whether a current line refers to a footnote;

upon determining that the current line refers to an footnote, determining whether the footnote has sufficient room on the page to fit, given already filled slots on the page; and,

10 upon determining that the footnote has sufficient room on the page to fit, accommodating the footnote at a bottom of a column on the page, decreasing in number slots of the column as required.

19. The method of claim 18, wherein upon determining that the footnote has insufficient room on the page to fit, postponing accommodation of the footnote to a next page.

15 20. A machine readable medium having instructions stored thereon for execution by a processor to perform a method comprising:

processing a document of at least text as a plurality of segments;

determining a plurality of page breaks within a predetermined segment;

rendering a predetermined page within the predetermined segment; and,

20 displaying the predetermined page.

21. The medium of claim 12, wherein determining a plurality of page breaks within a predetermined segment comprises:

pouring text of the predetermined segment into a series of predetermined slots of a first page organized into at least one column of the first page, until the slots of the first page have been processed;

denoting a page break; and,

repeating pouring the text into successive pages and denoting a page break until the text is depleted.

22. The medium of claim 21, wherein pouring the text into a series of predetermined slots comprises:

from a current position in the text, determining a maximum number of words that fit into a current slot;

advancing the current position in the text to a next word after the maximum number of words that fit into the current slot; and,

advancing the current slot to a next slot and repeating until the slots of the page have been processed.

23. A machine readable medium having instructions stored thereon for execution by a processor to perform a method comprising:

entering a predetermined segment of the document into memory;

determining each of a plurality of page breaks within the predetermined segment of the document; and,

storing the plurality of page breaks within the predetermined segment of the document in the memory.

24. The medium of claim 23, wherein determining each of a plurality of page breaks within the predetermined segment of the document comprises:

5       pouring text of the predetermined segment into a series of predetermined slots of a page organized into at least one column of the page, until the slots of the page have been processed;

          denoting a page break; and,

          repeating pouring the text into a next page until finished.

10   25. The medium of claim 24, wherein pouring the text into a series of predetermined slots comprises:

          from a current position in the text, determining a maximum number of words that fit into a current slot;

15       advancing the current position in the text to a next word after the maximum number of words that fit into the current slot; and,

          advancing the current slot to a next slot and repeating until the slots of the page have been processed.

26. A machine readable medium having instructions stored thereon for execution by a processor to perform a method comprising:

20       pouring text of the segment into a series of predetermined slots of a page organized

into at least one column of the page, until the slots of the page have been processed; and,  
denoting a page break.

27. The medium of claim 26, wherein pouring the text into a series of predetermined slots comprises:

5 from a current position in the text, determining a maximum number of words that fit into a current slot;

advancing the current position in the text to a next word after the maximum number of words that fit into the current slot; and,

10 advancing the current slot to a next slot and repeating until the slots of the page have been processed.

28. The medium of claim 26, wherein the text is defined as a series of lines and wherein pouring the text comprises:

determining whether a current line refers to an image;

15 upon determining that the current line refers to an image, determining whether the image has sufficient room on the page to fit, given already filled slots on the page and resizing scale of the image as necessary; and,

upon determining that the image has sufficient room on the page to fit, accommodating the image on the page, decreasing in size subsequent slots on the page as necessary.

20 29. The medium of claim 26, wherein the text is defined as a series of lines and wherein pouring the text comprises:



determining whether a current line refers to a footnote;

upon determining that the current line refers to an footnote, determining whether the footnote has sufficient room on the page to fit, given already filled slots on the page; and,

upon determining that the footnote has sufficient room on the page to fit,

5 accommodating the footnote at a bottom of a column on the page, decreasing in number slots of the column as required.

30. An electronic device comprising:

a storage to store a document having a plurality of segments;

a memory to store one of the plurality of segments; and,

10 a processor to execute a program to determine a plurality of page breaks within the one of the plurality of segments stored in the memory.

31. The device of claim 26, further comprising:

a display device to display a page of the one of the plurality of segments,

15 wherein the processor is further to execute a second program to render the page to be displayed on the display device.

32. The device of claim 26, wherein the program is to determined to plurality of page breaks by:

pouring text of the one of the plurality of segments into a series of predetermined slots of a page organized into at least one column of the page, until the slots of the page

20 have been processed;

denoting a page break; and,

repeating pouring the text into a next page until finished.

33. The device of claim 32, wherein the program is to pour the text into a series of predetermined slots by:

5 from a current position in the text, determining a maximum number of words that fit into a current slot;

advancing the current position in the text to a next word after the maximum number of words that fit into the current slot; and,

10 advancing the current slot to a next slot and repeating until the slots of the page have been processed.